

MARKED-UP COPY OF THE AMENDED CLAIMS

1. (amended) A built-up camshaft comprising a pipe coated by a jointing coating on an outer cylindrical surface and an inner cylindrical surface and having an outer pipe diameter and an inner pipe diameter and having cam places, bearing ring places and pipe end places;

cams formed as rings with an outer cylindrical flange and an inner cylindrical flange and provided with the jointing coating on an inner cylindrical surface of the inner cylindrical flange and positioned at the cam places and bearing rings provided with the jointing coating on inner surfaces being in contact with the pipe and positioned at the bearing ring places and end pieces provided with the jointing coating on outer cylindrical surfaces and having an outer end pieces diameter bigger than the inner pipe diameter, wherein the jointing coating of the pipe and the jointing coating of the cams, the bearing rings and the end pieces create durable joints between the pipe and the cams, the bearing rings and the end pieces and wherein the surface coating prevents a tribocorrosion and increases load capacity as compared to bare compression joints.

2. The built-up camshaft according to claim 1, wherein the jointing coating is a joint-stable conversion coating.

3. The built-up camshaft according to claim 1, wherein the jointing coating is a cement coating.
4. The build-up camshaft according to claim 1, wherein at least one of the pipe, the cams, the end pieces, the bearing rings are made out of one of the group of metal, ceramics, plastics by one of cutting, non-cutting, milling, forging in at least one of massive and profiled form.
5. The built-up camshaft according to claim 1, wherein the outer cylindrical surface and the inner cylindrical surface of the pipe is at least partially mechanically machined.
6. A built-up camshaft comprising
a pipe coated with a crystalline phosphate coating on an outer cylindrical surface and on an inner cylindrical surface and having an outer pipe diameter and an inner pipe diameter;
cams and bearing rings and end pieces having an outer diameter bigger than the inner pipe diameter and connected by means of compression joints to the pipe and provided with the crystalline phosphate coating on surfaces being in contact with the pipe, wherein the crystalline phosphate coating prevents

a tribocorrosion and increases load capacity as compared to compression joints and creates stable joints between the pipe and the cams, the bearing rings and the end pieces.

7. A built-up camshaft comprising

a pipe coated by a cement on an outer cylindrical surface and an inner cylindrical surface and having an outer pipe diameter and an inner pipe diameter;

cams and bearing rings and end pieces having an outer diameter bigger than the inner pipe diameter and connected by means of compression joints to the pipe and provided with the cement on surfaces being in contact with the pipe, wherein the cement prevents a tribocorrosion and increases load capacity as compared to compression joints.

8. (new) A method for building a camshaft comprising

making a pipe having an outer pipe diameter and an inner pipe diameter; coating the pipe with a jointing coating on an outer cylindrical surface and on an inner cylindrical surface;

making cams in form of rings with an outer cylindrical flange and an inner cylindrical flange and having a cam opening diameter smaller than the outer pipe diameter;

coating cams with the jointing coating on surfaces to be placed in contact with the pipe;
making bearing rings having an inner bearing ring diameter smaller than the outer pipe diameter;
coating the bearing rings with the jointing coating on surfaces to be placed in contact with the pipe;
making end pieces having an outer end piece diameter smaller than the inner pipe diameter;
coating the end pieces with the jointing coating on surfaces to be placed in contact with the pipe;
connecting the cams, the bearing rings, and the end pieces by means of compression joints to the pipe;
and allowing the jointing coating to create stable joints between the pipe and the cams, the bearing rings and the end pieces by hardening the jointing coating.

9. (amended) A built-up camshaft comprising
a pipe coated with a crystalline phosphate coating on an outer cylindrical surface and having an outer pipe diameter;
a cam having an inner diameter larger than the outer pipe diameter and connected by means of a compression joint to the pipe and provided with the crystalline phosphate coating on surfaces being in contact with the pipe, wherein the crystalline phosphate coating prevents a tribocorrosion and increases load capacity as compared to compression joints without coating and creates a stable joint between the pipe and the cam;

a bearing ring having an inner diameter larger than the outer pipe diameter and connected by means of a second compression joint to the pipe and provided with (a second crystalline phosphate coating) on surfaces being in contact with the pipe, wherein (the second crystalline phosphate) coating prevents a tribocorrosion and increases load capacity as compared to compression joints without coating and creates a stable joint between the pipe and the bearing ring;

an end piece having an inner diameter larger than the inner pipe diameter and connected by means of (a third compression joint) to the pipe and provided with (a third crystalline phosphate coating) on surfaces being in contact with the pipe, wherein the third crystalline phosphate coating prevents a tribocorrosion and increases load capacity as compared to bare compression joints and creates a stable joint between the pipe and the end piece.

10. A built-up camshaft comprising

an elongated part having an outer cylindrical surface;

a cam connected by means of a longitudinal compression joint to the elongated part, wherein the cam is covered with a joint-stable surface coating, and wherein the surface coating prevents a tribocorrosion and increases the load capacity as compared to compression joints;

a bearing ring connected by means of a second longitudinal compression joint to the elongated part, wherein the cam is covered with a second joint-stable surface coating, and wherein the surface coating prevents a

tribocorrosion and increases the load capacity as compared to compression joints;

an end piece connected by means of a third longitudinal compression joint to the elongated part, wherein the cam is covered with a third joint-stable surface coating, and wherein the surface coating prevents a tribocorrosion and increases the load capacity as compared to compression joints.

11. The camshaft according to claim 10, wherein the coating (2, 5) is a metal coating or a cement coating.

12. (amended) The camshaft according to claim 10, wherein the pipe, the cams, the end pieces, the bearing rings, and the other parts are made out of metal, ceramics, plastics or other materials, by cutting or non-cutting, by milling or forging in massive or profiled form.

13. The camshaft according to claim 1, wherein an outer jacket face of the pipe or of the solid rod has a drawn quality or is completely or partially mechanically machined.

14. The camshaft according to claim 10, wherein the elongated part having an outer cylindrical surface is a pipe.

15. The camshaft according to claim 10, wherein the elongated part having an outer cylindrical surface is a solid rod.

16. (amended) A built-up camshaft comprising
a pipe,
cams,
bearing rings,
end pieces, and
other parts, wherein the cams (3), the end pieces (6), the bearing rings, and the other parts are connected by means of longitudinal compression joints to the pipe, wherein the parts to be connected are provided with a suitable surface coating, and wherein the surface coating prevents a tribocorrosion and increases the load capacity as compared to non-coated compression joints.

17. (new) A built-up camshaft comprising
a solid rod,
cams,
bearing rings,
end pieces, and
other parts, wherein the cams (3), the end pieces (6), the bearing rings, and the other parts are connected by means of longitudinal compression joints to the pipe, wherein the parts to be connected are provided with a suitable surface coating, and wherein the surface coating prevents a tribocorrosion

and increases the load capacity as compared to non-coated compression joints.

REMARKS

Claims 1 through 17 continue to be in the case.

1. The Office Action refers to the status of the application and says the Office Action of February 21, 2003 is responsive to the communication filed on 11/13/02.

Applicants filed on February 2, 20003 an amendment dated February 4, 2003. applicants' attorney received a return post card with the official receipt stamp dated February 11, 2003 from the United States Patent and Trademark Office.

It is believed that the Office action issued February 21, 2003 should have given consideration to the amendment filed February 4, 2003.

- 2a. The Office Action states that "This Action is made final."

Applicants submit that this is a first Office Action in the Continued Processing Application and should not be made final as such.

In addition, Applicants submitted on February 4, 2003 a new claim 17. Applicants clearly should be entitled to a non-final Office Action with respect to claim 17.

Therefore, applicants respectfully request withdrawal of the finality of the Office Action of February 21, 2003.

1. The request filed on November 13, 2002 for a Continued Prosecution Application (CPA) under 37 CFR 1.53(d) based on parent Application No. 091476,521 is acceptable and a CPA has been established. The request for suspension of action under 37 CFR 1.103(b) for a period of three months in item 10 of the instant request for CPA has been granted. The suspension period is expired on February 13, 2003. An action on the CPA follows.

Applicants appreciate the granting of the request.

2. The Amendment filed on February 27, 2002 with the certificate of mailing dated January 16, 2002 (Paper No. 17) has been entered.

Applicants appreciate the entry of the amendment filed February 27, 2003.

Applicants respectfully request entry of the amendment filed February 4, 2003.

3. The interlineations or cancellations made in the specification or amendments to the claims could lead to confusion and mistake during the examination, issue and printing processes. Accordingly, the portion of the specification or claims as identified below is required to be rewritten before passing the case to issue. See 37 CFR 1.125 and MPEP § 608.01(q).

All of the pending claims are required to be rewritten.

Applicants are presenting in this amendment a listing of the pending claims.

4. Claim 8 is withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a non-elected invention, there being no

allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 10.

The examiner is correct.

5. The information disclosure statement filed July 3, 2000 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. It has been placed in the application file, but the information referred to therein has not been considered. Applicant is advised that the date of any re-submission of any item of information contained in this information disclosure statement or the submission of any missing elements) will be the date of submission, for purposes of determining compliance with the requirements based on the time of filing the statement, including all certification requirements for statements under 37 CFR 1.97(e). See MPEP § 609' C(1).

Applicants filed one information disclosure submission on February 5, 2003 and a second information disclosure statement on February 12, 2003.

6. The listing of references in the specification (German printed patent document 196.40 872.5 on page 5) is not a proper information disclosure statement. 37 CFR 1.98(b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but

must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on form PTO 892, they have not been considered.

Applicants filed one information disclosure submission on February 5, 2003 and a second information disclosure statement on February 12, 2003

7. The information disclosure statement filed on August 15, 2001 (journal articles G. Pursche, H. Gropp) which is incorporated into pages 31 and 32 of the Amendment filed on August 15, 2001 (Paper No. 15) fails to comply with 37 CFR 1.98(a)(1), which requires a list of all patents, publications, or other information submitted for consideration by the Office. It has been placed in the application file, but the information referred to therein has not been considered.

Applicants filed one information disclosure submission on February 5, 2003 and a second information disclosure statement on February 12, 2003.

8. The proposed drawing correction and/or the proposed substitute sheets of drawings, filed on July 31, 2000 have been partially approved.

(A) New Fig. 4 has been disapproved because:

(a) new Fig. 4 introduces new matter such as the end piece 4 as now shown. The original Fig. 2 shows that the inner diameter of the pipe 1 is varied: (1) at the junction of the end piece 4 and the pipe 1 as shown by

applicant's phantom line; and (2) at referential numeral 1 (see attached Exhibit). However, Fig. 4 shows that the inner diameter of the pipe 1 is constant. The original disclosure does not convey the concept that the inner diameter of the pipe 1 is constant, thus, it is unsupported by the record as filed.

Two sheets of Drawings (Figs. 1 to 4) were filed on February 4, 2003 together with the recited amendment.

(b) new Fig. 4 is inconsistent with the description in Paper No. 9. The insertion on page 6, line 12 of the specification, states that the outer diameter of the end piece 4 is slightly larger than an inner diameter of the pipe 1. However, Fig. 4 shows that the outer diameter of the end piece 4 is equal to the inner diameter of the pipe 1.

Two sheets of Drawings (Figs. 1 to 4) were filed on February 4, 2003 together with the recited amendment.

(B) The corrected Fig. 3 has been disapproved since it introduces new matter. The original drawings do not show the bearing rings. The corrected Fig. 3 now shows the bearing 6, which is identical to the cam 3. The showing and description of a specific type of bearing within a fall spectrum of possible bearings is considered under the present disclosure to be new matter. Cf, *In re Smith*, 173 USPQ 679 (CCPA 1972) and *Ex parte George*, 230 USPQ 575, 578 (BPAI 1986).

Two sheets of Drawings (Figs. 1 to 4) were filed on February 4, 2003 together with the recited amendment.

(C) The corrected Fig. 1 has been approved.

The approval of corrected Fig.1 is very much appreciated by the applicants.

9. The proposed drawing correction and/or the proposed substitute sheets of drawings, filed on February 27, 2002 have been disapproved because:

(A) new Figs. 9-18 introduce new matters. For example:

(a) the size, shape, and/or location of the bearing rings 6 as now shown in Figs. 9-18 are unsupported by the record as filed. In fact, the original drawings do not show the bearing rings 6. The showing of a specific size, shape, and/or location of the bearing rings within a full spectrum of possible bearing rings is considered under the present disclosure to be new matter. Cf, In re Smith and Ex parte George, supra; and

(b) the orientation of the cams 3 as now shown in Figs. 11 and 18 is unsupported by the record as filed. In fact, the original Fig. 3 shows that the cams 3 are oriented in the same direction. However, new Figs. 11 and 18 show that the cams 3 are oriented in different directions (some are pointed to the left and some are pointed to the right). The different orientations of the cams 3 introduce new matter; and

(B) the new drawings are inconsistent with the specification, e.g., the Brief Description of the Drawings in the specification does not describe new Figs. 9-18.

Applicants understand that new Figs. 9 – 18 will not be part of any patent issuing in the present case.

10. The original drawings are objected to because:

(a) the drawings should show the plane upon which a sectional view such as Fig. 1 is taken; and

(b) each part of the invention, such as, (1) the second compression joint, the second crystalline phosphate coating, the third compression joint, and the third crystalline phosphate coating in claims 9 and 10; and (2) the solid rod in claim 15 should be designated by a referential numeral or character.

Correction is required.

Two sheets of Drawings (Figs. 1 to 4) were filed on February 4, 2003 together with the recited amendment.

11. The original drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the claimed features, such as, (a) the bearing rings in claims, 1, 6, etc., (b) the third crystalline phosphate coating in claims 9 and 10; and (c) the solid rod in claim 15 must be shown or the features canceled from the claims. No new matter should be entered.

Two sheets of Drawings (Figs. 1 to 4) were filed on February 4, 2003 together with the recited amendment.

The original drawings merely show: (a) the pipe 1 as described on page 6 of the specification; and (b) only two coatings (i.e., first and second coatings) 2 and 5 as described in the original specification.

Two sheets of Drawings (Figs. 1 to 4) were filed on February 4, 2003 together with the recited amendment.

12. The amendment filed February 23, 2000 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is, e.g., as follows:

(A) the insertion in line 9 on page 6 of the specification. The original disclosure does not convey the concept that the cam 3 shown in Fig. 1 has an opening diameter slightly smaller than an outer pipe diameter, thus, it is new matter. In re Anderson, *supra*;

The present amendment reverses the insertion.

(B) the insertion in line 12 on page 6 of the specification. The original disclosure does not convey the concept that the outer diameter of the end piece 4 is slightly larger than an inner diameter of the pipe 1, thus, it is new matter. In re Anderson, *supra*; and

The present amendment reverses the insertion.

(C) the insertions in lines 13 and 14 on page 6 of the specification. The original drawings do not show the bearing rings. The corrected Fig. 3 now shows the bearing 6 which is identical to the cam 3. The showing and description of a specific type of bearing within a full spectrum of possible bearings is considered under the present disclosure to be new matter. Cf, In re Smith, 173 USPQ 679 (CCPA 1972) and Ex parte George, 230 USPQ 575, 578 (BPAI 1986).

The present amendment reverses the insertion.

Applicant is required to cancel the new matter in the reply to this Office action.

The present amendment cancels the objectionable subject matter.

13. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter, such as, (a) "a second compression joint," "a second crystalline phosphate coating," "a third compression joint" and "a third crystalline phosphate coating" in claims 9 and 10-, and (b) "an elongated part" in claim 10. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction is required. 14. The text of those sections of Title 35, U. S. Code not included in this action can be found in a prior Office action.

Applicants have responded to this assertion in the amendment filed February 4, 2003.

15. Claims 9-15 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The Office Action refers to New matter.

Claims 9 and 10 now call for the second compression joint, the second crystalline phosphate coating, the third compression joint, and the third crystalline phosphate coating.

Although the original drawings (Figs. 1-3) show only two coatings 2 and 5 as described in the original specification, however, claims 9 and 10

now claim three coatings as evidenced by the term "a third crystalline phosphate coating." The third crystalline phosphate coating is unsupported by the record as filed.

Applicants have responded to this assertion in the amendment filed February 4, 2003.

The Office Action refers to Inadequate description.

Claims 9 and 10 now call for the second compression joint, the second crystalline phosphate coating, the third compression joint, and the third crystalline phosphate coating. The original drawings (Figs. 1-3) show only two coatings 2 and 5 as described in the original specification. On the filing date, it is unclear as to how applicant makes/uses the third crystalline phosphate coating as claimed.

Applicants have responded to this assertion in the amendment filed February 4, 2003.

Claim 15 calls for a solid rod. However, applicant's drawings show only a pipe as described on page 6 of the specification. It is unclear as to how applicant makes/uses the camshaft that has an elongated part being a solid rod as claimed. .

Applicants have responded to this assertion in the amendment filed February 4, 2003.

16. Claims 1-7 and 9-16 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "compression joints without joining coating" in claims 1 and 9 is vague and indefinite since it is not clear what type of compression joints are without joining coating.

The recitation "conventional compression joints" in claim 16 is vague and indefinite since it is not clear what type of compression joints is considered to be "conventional."

Claims 1 and 9 were amended in the amendment filed February 4, 2003.

It is unclear:

(A) which structures define the claimed elements, such as, the third compression joint, and the third crystalline phosphate coating in claims 9 and 10. Although the original drawings (Figs. 1-3) show only two coatings 2 and 5 as described in the original specification, however, claims 9 and 10 now claim three coatings as evidenced by the term "a third crystalline phosphate coating." Applicant is respectfully urged to identify each claimed element with reference to the drawings; and

(B) whether the term that appears at least twice, e.g., "compression joints" in claims 6 and 7 refers to the same or different things. See MPEP 2173.05(o). Applicant is respectfully urged to identify each claimed element with reference to the drawings.

The use of alternative expression "or" in claims 12 and 16, etc. renders said claims vague and indefinite.

Claims 9 and 16 have been amended in the amendment filed February 4, 2003.

17. Claims 1-7 and 9-16, as best understood, stand rejected under 35 U.S. C. 102(a) as anticipated by or, in the alternative, under 35 U. S.C. 103(a) as obvious over Seim et al. (Publication "Erhöhung der Sicherheit gebauter . . ." cited in EPO Search Report in the parent application).

35 USC 102(a)

Regarding claim 1, Seim teaches a built-up camshaft comprising a pipe coated by a joint coating on outer and inner cylindrical surfaces (id., Table on page 289 and Fig. 12 on page 290) and having outer and inner pipe diameters; and having cam places, bearing ring places and pipe end places (e.g., Figs. 1 and 2, page 284 and Fig. 5 page 286); cams formed as rings with outer and inner cylindrical flanges (Fig. 12) and provided with the joint coating on an inner cylindrical surface of the inner flange and having a cam opening diameter. The outer end pieces of Seim inherently have an outer diameter bigger than the inner pipe diameter so that its outer end can be slipped into the pipe and joined to the pipe.

Claim 1 and other claims below are anticipated by Seim since Seim's camshaft inherently has the bearing rings and end pieces. In fact, the bearing rings and end pieces are notoriously conventional in the camshaft art (see, e.g., US Patent No. 5,299,881 issued to Mettler-Fnedli and references classified, e.g., in Class 74, subclass 567, and Class 123, subclass 90.6 of the Office). Without the bearing rings and end pieces, one would not be able to assemble or mount Seim's camshaft to other parts of the internal combustion engine, i.e., it would be inoperative for its intended purposes. See *In re Berg*, 46 USPQ2d 1226 (CAFC 1998). In addition, it is well settled that the "wherein" or "whereby" clause that merely states inherent result of the limitations in the claim adds nothing to the claim's patentability

or substance. Texas Instruments Inc. v. International Trade Commission, 26 USPQ2d 1018 (CAFC 1993).

Regarding claim 2, the joint coating of Seim is a joint-stable conversion coating (Fig. 12 and the English summary on page 285).

Regarding claim 3, the inorganic and compound joint coatings of Seim inherently include a cement coating.

Regarding claim 4, at least one of the pipe, cams, end pieces and bearing rings are made of metal as seen by the drawing symbols for draftsmen in Fig. 12.

Regarding claim 5, the outer and inner cylindrical surfaces of the pipe is inherently partially mechanically machined. See, e.g., Fig. 10.

Regarding claims 6 and 7, Seim teaches a built-up camshaft comprising a pipe coated with a crystalline phosphate coating or a cement on an outer cylindrical surface and having outer and inner pipe diameters; cams and bearing rings (Fig. 9 and Table on page 289, and Fig. 12) having an inner diameter and end pieces having an outer diameter connected by means of compression joints. The cams, bearing rings and end pieces of Seim inherently have an outer diameter bigger than the inner pipe diameter so that they can be slipped into the pipe and joined to the pipe.

Regarding claim 9, Seim teaches a built-up camshaft comprising: a pipe coated with a crystalline phosphate coating on an outer cylindrical surface and having an outer pipe diameter (Figs. 10 and 12); a cam (Figs. 1 and 12) having an inner diameter larger than the outer pipe diameter and connected by means of a compression joint to the pipe and provided with the crystalline phosphate coating on surfaces being in contact with the pipe, wherein the crystalline phosphate coating prevents a tribocorrosion and

increases load capacity as compared to compression joints and creates a stable joint between the pipe and the cam;

a bearing ring having an inner diameter larger than the outer pipe diameter and connected by means of a second compression joint to the pipe and provided with a second crystalline phosphate coating on surfaces being in contact with the pipe, wherein the crystalline phosphate coating prevents a tribocorrosion and increases load capacity as compared to compression joints without coating and creates a stable joint between the pipe and the bearing ring;

an end piece having an inner diameter larger than the inner pipe diameter and connected by means of a third compression joint to the pipe and provided with a third crystalline phosphate coating on surfaces being in contact with the pipe, wherein the crystalline phosphate coating prevents a tribocorrosion and increases load capacity as compared to compression joints without coating and creates a stable joint between the pipe and the end piece.

Note that Seim's camshaft inherently has the bearing rings and end pieces. Without the bearing rings and end pieces, one would not be able to mount Seim's camshaft to other parts of the internal combustion engine.

Regarding claim 10, Seim teaches a built-up camshaft comprising: an elongated part (Figs. 1 and 12) having an outer cylindrical surface; a cam (Figs. 1 and 12) connected by means of a longitudinal compression joint to the elongated part, wherein the cam is covered with a joint-stable surface coating (Fig. 12), and wherein the surface coating prevents a tribocorrosion and increases the load capacity as compared to compression joints; a bearing ring connected by means of a second longitudinal compression joint

to the elongated part, wherein the cam is covered with a second joint-stable surface coating, and wherein the surface coating prevents a tribocorrosion and increases the load capacity as compared to compression joints; an end piece connected by means of a third longitudinal compression joint to the elongated part, wherein the cam is covered with a third joint-stable surface coating, and wherein the surface coating prevents a tribocorrosion and increases the load capacity as compared to compression joints.

Note that Seim's camshaft inherently has the bearing rings and end pieces. Without the bearing rings and end pieces, one would not be able to mount Seim's camshaft to other parts of the internal combustion engine.

Regarding claim 11, see regarding claim 3 above.

Regarding claim 12, see regarding claim 4 above. Further, note that the patentability of product-by-process is not dependent upon the process (cutting or non-cutting, milling or forging in massive or profiled form). MPEP 2113.

Regarding claim 13, the outer jacket face of the pipe (Figs. 1 and 12) inherently has a drawn quality. See also MPEP 2113 *supra*.

Regarding claim 14, the elongated part having an outer cylindrical surface is a pipe (Fig. 1).

Regarding claim 15, the elongated part having an outer cylindrical surface is a solid rod (Fig. 6).

Regarding claim 16, Seim teaches a built-up camshaft comprising a pipe or a solid rod, cams, bearing rings, end pieces, and other parts (Fig. 5),

wherein the cams, the end pieces, the bearing rings, and the other parts are connected by means of longitudinal compression joints to the pipe or to the solid rod, wherein the parts to be connected are provided with a suitable surface coating, and wherein the surface coating prevents a tribocorrosion and increases the load capacity as compared to conventional compression joints. *Texas Instruments Inc. v. International Trade Commission*, supra. 35 USC 103(a)

Regarding claims 1-7 and 9-16, Seim teaches the invention substantially as claimed. See the rejection under 35 USC 102(a) above. However, Seim does not explicitly teach the dimensions of the cams, bearings, end pieces and pipe, etc. as claimed.

It is common knowledge in the art to change the dimensions of the cams, bearings, end pieces and pipe, etc. of Seim such that, e.g., the end pieces of Seim have an outer diameter bigger than the inner pipe diameter, etc. in order to slide the end pieces into the pipe and join the end pieces to the pipe. See stare decisions about the change in size/proportion cited in MPEP 2144.04.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to change the dimensions of the cams, bearings, end pieces and pipe, etc. of Seim such that, e.g., the end pieces of Seim have an outer diameter bigger than the inner pipe diameter, etc. in order to slide the end pieces into the pipe and join the end pieces to the pipe as suggested by common knowledge in the art.

Applicants are working on a declaration intended to show the t claims under consideration are new and unobvious.

18. Claims 1-7 and 9-16, as best understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Seim in view of Mettler-Friedli (US Patent No. 5,299,881).

Regarding claims 1-7 and 9-16, Seim teaches the invention substantially as claimed. However, Seim does not explicitly teach the bearing rings and the end pieces. See page 23 of Paper No. 15.

Mettler-Friedli teaches the conventional bearing rings and the end pieces 2, 2a, 12, 13 in order to mount the camshaft to an internal combustion engine as seen in line 19 et seq., column 5.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to form the conventional bearing rings and the end pieces on Seim's camshaft in order to mount Seim's camshaft to the internal combustion engine as suggested by Mettler-Friedli.

Applicants are working on a declaration intended to show the claims under consideration are new and unobvious.

19. Applicants arguments filed February 27, 2002 (Paper No. 17) have been fully considered but they are not persuasive.

1. With respect to the Supplemental Amendment filed on August 15, 2001, applicant is very welcome when the examiner uses the clean copy of the claims for examination.

2. With respect to the misnumbering of the claims, applicant is very welcome when the examiner renumbered the claims

3. With respect to claim 8, it has not been canceled, thus, it is withdrawn as set forth above.

4. With respect to the Information Disclosure Statements (IDS), applicant has not taken additional steps to comply with 37 CFR 1.98, thus, they have not been considered as set forth above.

5. With respect to the proposed drawing correction filed on July 31, 2000, applicant has not provided further effort to correct the remaining drawings, thus, the partially approval is maintained as set forth above.

6. With respect to new drawings, see the disapproval due to new matter above.

7. With respect to the amendment filed on February 23, 2000, applicant only amended the claims in the instant amendment, thus, the objectionable insertion has not been canceled. The objection is maintained as set forth above.

8. With respect to the antecedent basis for the claimed subject matter, e.g., "an elongated part" in claim 10, applicant contends that it is seen in the drawing figures. Although it may be seen in the drawings, nevertheless, the specification does not describe or have a referential numeral/character to designate it, thus, it lack antecedent basis in the specification.

9. With respect to 35 USC 112, first paragraph, applicant has not provided the additional drawing to show a solid rod. Therefore, the instant rejection is reiterated.' Further, the examiner respectfully reminds applicant of the issue of new matter if applicant submits new drawing.

10. With respect to 35 USC 112, second paragraph, the previous rejection due to the term "stable joint" and lacking of antecedent basis is withdrawn in view of applicant's amendment. However, the alternative

expression "or" is remained in claims 12 and 16, etc., thus, this ground of rejection is reiterated.

Applicants make reference to the amendment filed February 4, 2003.

The Office Action refers to 35 USC 102(a).

At the outset, applicant takes no issue, inter alia, that: (a) Seim publication already shows that the cams can be attached to the tubes; (b) the table in Seim article shows the torque is higher in case of employing a shaft with a compound stable conversion layer coating, such as, MoS₂ oil paste or MoS₂ powder. However, applicant contends that Seim describes completely different joining methods for the construction of the camshafts and there is a lack of teaching as to an application of end pieces in Seim reference.

First, the examiner respectfully submits that the claims under examination are product-by-process claims. These claims are anticipated by Seim since Seim explicitly or implicitly teaches each and every claimed element of the applicant's product-by-process claims. It is well settled that the patentability of a product does not depend on its method of production in the instant case. In re Thorpe, 227 USPQ 964, 966 (CAFC 1985); In re Brown, 173 USPQ 685 (CCPA 1972); In re Fessmann, 180 USPQ 324 (CCPA 1974); Ex parte Edwards, 231 USPQ 981 (BPAI 1986); and MPEP 2113.

Second, regarding applicant's assertion that Seim does not teach the bearings and end pieces as required in claim 1, the examiner respectfully submits that it is well settled that each of the elements is not necessary to be described expressly in the reference. In fact, the claim is also anticipated if each of the elements is inherently described in the single reference.

Verdegaal Brothers, Inc. v. Union Oil Co., 2 USPQ2d 1051, 1053 (CAFC 1987) and cases cited therein. Moreover, the single USC 102 reference needs not provide such explanation to anticipate when an artisan would know as evidenced by standard text books. In re Opprecht, 12 USPQ2d 1235 (CAFC 1989).

In the instant case, the artisan would know that Seim's camshaft inherently has the bearing ring and end pieces. The bearing rings and end pieces are notoriously conventional in the camshaft art (see, e.g., US Patent No. 5,299,881 issued to Mettler-Friedli, Japanese Utility Model # 61166980, Japanese Utility Model # 8-93884, and other references classified, e.g., in Class 74, subclass 567 and Class 123, subclass 90.6 of the Office). Without the bearing rings and end pieces, one would not be able to assemble or mount Seim's camshaft to other parts of the internal combustion engine, i.e., Seim's camshaft would be inoperative for its intended purposes.

Third, applicant contends that the Invention method as claimed is clearly novel and patentable over Seim as seen on pages 18 and 19 of Paper No. 17. Nevertheless, contrary to applicant's remarks, applicant claims under examination call for an apparatus or a product, not a method. Thus, applicant's argument about method is unpersuasive. In re Thorpe, supra.

Applicants are working on a declaration intended to show the claims under consideration are new and unobvious.

The Office Action refers to 35 USC 103.

Applicant submits that Mettler-Friedli describes the conventional camshaft comprising a hollow shaft, cams, bearing rings, and end pieces,

but, applicant contends that Mettler does not teach the simple construction process according to the principle "joined and finished and coated, etc.

On the one hand, applicant admits that Seim teaches the claimed method of connection as evidenced by the statement "This connection is extremely durable as is shown on page 298 of the reference Seim et al." on page 21 of Paper No. 17.

On the other hand, as set forth above, the patentability of a product does not depend on its method of production in the instant case, thus, applicant's arguments about the method are unconvincing.

In addition, it is well-established that similar structures would behave similarly. In re Merck & Co., Inc., 231 USPQ 375 (CAFC 1986). Since Seim teaches the coating of crystalline phosphate on a camshaft, therefore, Seim's camshaft is expected to behave in the same manner as applicant's camshaft, i.e., the change of the conversion layer based on pressing of the press connection and forming of a micro form matching is necessary inherent and flown naturally from Seim's teaching of the same type of applicant's coating. In re Best, 195 USPQ 430, 433 (CCPA 1977) and MPEP 2112.

For the reasons stated above, the rejections based on Seim are maintained.

Applicants are working on a declaration intended to show the claims under consideration are new and unobvious.

20. All claims are drawn to the same invention claimed in the parent application prior to the filing of this Continued Prosecution Application

under 37 CFR 1.53(d) and could have been finally rejected on the grounds and art of record in the next Office action.

Applicants respectfully disagree. Claim 17 could not have been finally rejected, since claim 17 was not under consideration.

Accordingly, THIS ACTION IS MADE FINAL even though it is a first action after the filing under 37 CFR 1.53(d). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

Applicants respectfully disagree with the finality of the Office action. Applicants respectfully urge that they are entitled to a non-final Office Action with respect to claim 17. The refusal of the Office Action to investigate claim 7 with respect to patent ability papers to be clearly improper.

The present amendment is intended to present claims which are deemed to be in better form for appeal.

The present amendment is deemed to remove and/or simplify issues which would otherwise require consideration in an appeal.

The present amendment is believed not to present any new issues since the claims are substantially based on previously presented claims and since such limitations had been individually submitted earlier and had been considered earlier.

It is submitted that the amendment is a bona fide attempt to advance the prosecution by amendments to the specification seeking to overcome

rejections based on the applied prior art and/or rejections under 35 U.S.C.

112.

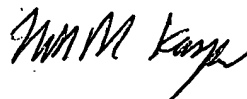
It is submitted that the present amendment complies with observations made in the Final Rejection.

Reconsideration of all outstanding rejections is respectfully requested.

Entry of the present amendment is respectfully requested. All claims as presently submitted are deemed to be in form for allowance and an early notice of allowance is earnestly solicited.

Respectfully submitted,

Herbert Gropp et al.



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